ARC SUPPORT FOR RESEARCH IN THE MATHEMATICAL SCIENCES
A SUMMARY OF TRENDS – SUBMIT YEARS 2001 TO 2011
[as at January 2013]

TOTAL FUNDING

- From 2001 to 2011, the proportion of total ARC funding awarded to research in the Mathematical Sciences fluctuated from a low of 2.4 per cent in 2004 to a high of 5.9 per cent in 2011.

- The *Discovery Projects* scheme was the most important scheme in terms of funding with 64 per cent of total funding awarded to research projects in the Mathematical Sciences in this period awarded under this scheme.

NUMBER OF CONSIDERED PROPOSALS

- From 2001 to 2011, a total of 2155 Mathematical Sciences proposals were submitted for funding under the ARC's funding schemes. The number increased by approximately 135 per cent across the period under consideration, from 138 in 2001 to 324 in 2011.

NUMBER OF FUNDED PROPOSALS

- From 2001 to 2011, the number of proposals funded in the Mathematical Sciences increased by 137 per cent, from 43 proposals in 2001 to 102 proposals in 2011. Between 2010 and 2011 the number increased from 70 to 102 primarily due to proposals funded under the *Future Fellowships* scheme.

- In the three selection rounds conducted under the *ARC Centres of Excellence* scheme (for funding commencing in 2003, 2005 and 2011) only one Centre is recorded as falling directly within the Mathematical Sciences. At least one other Centre, however, identified FoR codes relevant to research in the Mathematical Sciences.

PROPOSAL SUCCESS RATES

- From 2001 to 2011, the success rates of proposals in the Mathematical Sciences were on par with or better than those in Engineering and ICT.

- Under the *Discovery Projects* scheme, the success rate of proposals in the Mathematical Sciences exceeded the overall scheme success rate in all years during the period under consideration.

CROSS-DISCIPLINARY PROPOSALS

- *Spread of Mathematical Sciences into other disciplines*: In the period 2001 to 2011, up to four per cent of the non-Mathematical Sciences proposals received by the ARC each year in the Natural Sciences, Engineering and ICT had a component of Mathematical Sciences.

- *Spread of other disciplines into Mathematical Sciences*: Since 2005, the proportion of cross-disciplinary proposals in Mathematical Sciences has declined from approximately 40 to 25 per cent.

RESEARCHER BEHAVIOUR (under *Discovery Projects*)

- In the period 2001 to 2011, single Chief Investigator/Fellow proposals accounted for approximately 65 per cent of Discovery Projects proposals in the Mathematical Sciences each year until recently when the proportion declined to 50 per cent. The decline could be due to the establishment of the *Discovery Early Career Researcher Award* scheme.

BACKGROUND

The Australian Research Council

The ARC funds research and researchers under the funding schemes of the National Competitive Grants Program (NCGP) in all discipline areas (except clinical medicine and dentistry). The funding schemes are organised under two Programs (see below). Funding is allocated on the basis of a competitive peer review process.

Discovery	Linkage
Australian Laureate Fellowships	ARC Centres of Excellence
Discovery Early Career Researchers	Linkage Infrastructure, Equipment and Facilities
Discovery Indigenous	Linkage Projects
Discovery Projects	Special Research Initiatives
Future Fellowships	Industrial Transformation Research Program

Data notes

● Proposals in the Mathematical Sciences are defined as those that have identified themselves as being relevant to the following primary four-digit ABS FoR/RFCD codes:

FoR/RFCD	Code	Code description
FOR08	0101	Pure mathematics
FOR08	0102	Applied Mathematics
FOR08	0103	Numerical and computational mathematics
FOR08	0104	Statistics
FOR08	0105	Mathematical physics
FOR08	0199	Other mathematical sciences
RFCD98	2301	Mathematics
RFCD98	2302	Statistics
RFCD98	2399	Other mathematical sciences

● The ARC derives the primary four-digit code for each proposal by rolling up the six-digit level codes entered by researchers submitting proposals to the ARC. The four-digit level code with the highest percentage on a proposal is regarded as the primary code. Where there is more than one four-digit code on a proposal and the codes have the same percentages (i.e. 50:50), the ARC regards the first code entered by the researchers as the primary code. The ARC defines a cross-disciplinary proposal as one that has more than one four-digit level code on the proposal and the combined percentage of the code that has the highest percentage is at or below 70 per cent.

● The results of analysis of data by submit year may reflect changes in allocation mechanisms. Selection rounds for ARC Centres of Excellence, for example, are only conducted periodically and the ARC Future Fellowships scheme was first established for funding commencing in 2009. Where possible, the impact of these changes is identified. Note that the *Discovery Projects* scheme is one of the ARC's main funding schemes. Each year approximately 40 per cent of total NCGP funding is allocated under this scheme.